

We claim:

1. A permeable membrane diaphragm of different layers for electrolytic cell, comprising:

A flow-controlling permeable layer, which comprises a thin liquid permeable micro-porous membrane or several thinner similar membranes made of fluoro-containing polymers; This layer is mounted toward the anode;

A diffusion-restricting permeable layer, which comprises a thick permeable perforate film, sheet or cloth, or several thinner similar films, sheets or cloths made of anti-corrosive materials; The mean pore diameter of this layer is at least 5 times larger than that of the flow-controlling permeable layer, and the thickness of this layer is at least 1 times larger than that of the flow-controlling permeable layer; This layer is mounted toward the cathode;

Optionally a protective layer, which comprises one or more liquid permeable film, sheet or cloth made of anti-corrosive materials; This layer covers the micro-porous membrane of the flow-controlling permeable layer to protect it; and

Optionally a fluid impermeable frame made of anti-corrosive material; This frame is around the above-said layers.

2. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the flow-controlling permeable layer comprises one or more micro-porous membranes made from hydrophilized polytetrafluoroethylene; The mean pore diameter of this layer is in the range of 0.1-2.0  $\mu$  m and the thickness of this layer is in the range of 0.03-0.2mm.

3. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1 or 2, wherein the flow-controlling permeable layer has a mean pore diameter of 0.1-0.5  $\mu$  m and a thickness of 0.07-0.1mm.

4. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the matrix of the diffusion-restricting permeable layer is selected from the group consisting of polypropylene, chlorinated polyvinyl chloride, polyoxymethylene, polyamide, polytetrafluoroethylene and synthetic rubber.

5. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the matrix of the diffusion-restricting permeable layer is polypropylene.

6. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the diffusion-restricting layer has a mean pore diameter of 5-50  $\mu$  m and a thickness of 0.3-2mm.

7. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the diffusion-restricting layer has a mean pore diameter of 10-20  $\mu$  m and a thickness of 0.8-1.2mm.

8. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the membranes are combined together by means of adhesive, hot pressing or just by simply superposing.

9. The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the frame is a part of the electrolytic cell and the connection between the diaphragm and other parts of the electrolytic cell is detachable.